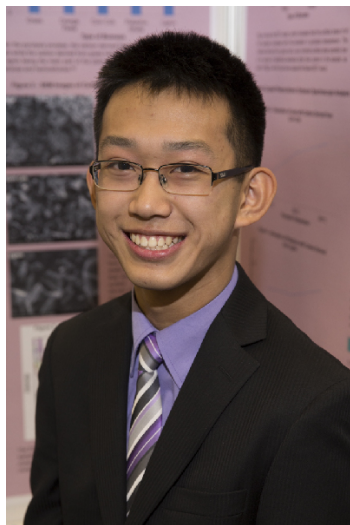


CWSF 2016 - Montreal, Quebec



Jay Chen

Biomass Derived Carbon for Innovative Water Purification and Metal Extraction

Challenge: Environment

Category: Senior

Region: Northwestern Ontario

City: Thunder Bay, ON

School: Sir Winston Churchill C.V.I.

Abstract: Adsorption, the adhesion of molecules in a liquid to a surface of a solid, is an effective water purification process. In this project, biomasses are converted into carbon materials through pyrolysis to increase their surface areas, become efficient adsorbents, and used to purify water contaminated with pollutants. The results indicated that biomass derived carbons can effectively remove ions, promising for wastewater treatment and metal extraction.

Biography

My name is Jay Chen, and I am a Grade 11 student attending the IB program at Sir Winston Churchill C.V.I. in Thunder Bay, Ontario. At school my favourite subjects include mathematics and music. I enjoy figure skating, and I have reached Level 10 piano. Another hobby of mine is volunteering, and I have volunteered at various events around the city, as well as ventured to Ecuador to help build a school. In the future, I wish to go into the medical field, though I am still unsure of what specific program and career to choose. This project was inspired after realizing how much biomass is produced in my home alone and I wanted to find a use for it. I combined this with my previous researched knowledge of adsorption and created this project. For future experiments, I plan to test even more different biomasses with different ions, and perhaps expand to adsorbing organic compounds as well. My advice to any student thinking about doing a project would be to pursue a project that truly interests you. This way, the entire scientific process will feel more like a fun hobby, rather than work.

Awards

Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$2 000